Enterprise Standards:
2000 Software Domain

Category:
2810 Geographic Information Systems (GIS) - Desktop

Definition:
Desktop GIS mapping software can be defined by four major characteristics:

1) Easy to use and access of 'enterprise' geographic and digital geospatial data held by various data custodians across agencies.
2) Functional capacity to support relatively simple custom applications development
3) Capability to conduct ad hoc applications, including relatively simple queries and analysis, and graphic display and output.
4) The user is typically a program manager, policy analyst or a non-GIS user who is interested in using the software for the purpose of analysis, decision-making or understanding a problem that does not require a high-level of GIS expertise.

Geographic Information Systems are a combination of hardware, software, data, (both attribute and geographic) and trained personnel, all working together to manage information to help make better decisions. Together, they provide powerful tools for and analysis of spatial information and automated cartography. It is an emerging technology that has a wide range of uses in all sectors of the economy, for natural resources management, transportation planning, inventorying landcover, economic development analysis, customer market analysis, utility siting, and crime tracking to name a few.

Rationale:
The Environmental Systems Research Institute, Inc. (ESRI) is the industry leader of GIS software with a wide range of capabilities. Their extensive software suite provides for desktop analysis as well as enterprise-wide management of digital geospatial data and development of customer applications along with powerful tools for ad-hoc analysis. A wide range of output and presentation capabilities, World Wide Web data dissemination and third-party modules are available.

The rationale for selection of the ESRI suite of products is based on the following considerations:

1) Most state agencies with desktop mapping analysis needs are currently using ArcView the desktop mapping software of ESRI. There is a large, literate installed base of users in the Commonwealth.
2) Data produced using the ArcView 3.X software are compatible with the ARC/INFO GIS software
3) ARC/INFO supported in the Statewide Enterprise Standards.
4) ArcView runs on a variety of hardware platforms already in use in the state.
5) ArcView runs on the approved operating systems of the Enterprise Standards.
6) Because of the pervasive use of ArcView software in the Commonwealth at the state, local and federal level and private sector, geographic data created is generally accessible.

7) The state currently has a significant number of staff already trained and highly skilled in the use of this software. The Office of GIS and the Governor's Office for Technology, Division of IT Training have cooperated to establish a class schedule which includes ArcView training classes using government and private sector instructors, and is delivered at the training center in Frankfort.

Approved Standard(s):

Compatible with approved desktop operating systems. Windows NT is strongly recommended.

Approved Product(s):

ArcView version 3.X software and its ancillary modules for Windows 95/98 and Windows NT, including Avenue, the programming language that comes with ArcView. Avenue is the customization and development environment for ArcView (see Category 2900). Windows NT is the recommended desktop platform.
Spatial Metadata Management System (SMMS) version 2.X, metadata authoring software, from RTSe USA. (see Category 4030 GIS Data Standards)

Justification:

Given that virtually all of the installed software already is ArcView, no formal migration strategy is recommended. By adopting this as the standard, all future purchases for Analytic GIS would be from the ESRI suite of software. In the era of government downsizing and budget restrictions, there is no room for redundant data development. Individual agencies do not have the fiscal or physical resources to develop and maintain all possible data needs. Moreover, decision making is becoming increasingly complex with cuts across multiple agencies. As a result, there is an extreme demand for data sharing. GIS presents an extraordinary opportunity to reduce redundancy and to provide 'one stop shopping' for government information and decision making by using place as an index.

The Metadata Subcommittee of the Geographic Information Advisory Council benchmarked several metadata authoring tools. Spatial Metadata Management System (SMMS) is the approved product for metadata creation. The tool was tailored to Kentucky to include only sections 1 and 7 of the FGDC metadata standard to comply with the accepted Kentucky metadata standard. SMMS is a FGDC compliant tool for managing large amounts of spatial data. It has been designed to not only allow organizations to create FGDC compliant metadata in a highly functional relational database, but also to post files directly to electronic clearinghouse nodes. Other advantages of SMMS include:

- Easily create, manage and distribute Kentucky's section 1 and 7 of FGDC-compliant geospatial metadata
- Maintain a multi-user Microsoft SQL Server or Microsoft Access metadata database
- Minimize data entry with metadata templates
- Rapidly search and retrieve records from your growing metadata database
- Publish internet-ready reports with links to spatial data
- Keep your metadata current with Metadata Management functionality
- Import and export metadata files in ASCII text and SGML
- Share Contacts, Citations and Distribution Methods among metadata sets
- Customize the view to better suit your organization's level of compliance
- Receive extensive online help and technical support
- Convert your entire SMMS 1.0 database with a single command

Technical and Implementation Considerations:

ArcView is a complex desktop software application and end user training is strongly recommended. ArcView requires considerable desktop workstation resources to operate efficiently. Agencies should consider only the Power User Desktop workstation (Category 1410) with the following recommended options: 21" SVGA monitor.

Emerging Trends and Architectural Directions:

Review Cycle:

Annually

Timeline:

Revision date: July 1, 2000
Effective date: July 1, 1997